Power Economy

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Available as sources of energy are above all the known energy materials such as coal, oil, peat, and wood, and, in second rank, water power. Coal has a prominent position in terms of its share in the present production of energy. Oil claims second place. Peat and wood play a very decisive role only in certain places, while a beginning has been made only in the last few years in the exploitation of water power. More exact figures on the economic contribution of the various sources of energy cannot be made since no publications are available on this subject. This applies also to the production of electrical energy, which is to be treated next, and about which only a generalized picture also can be drawn.

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In its numerous coal deposits, which are scattered widely over the land, Transbaykal has the best conditions for supplying itself regionally both for industrial purposes and also for the production of electrical energy. Here, too, the first modern beginnings were made in moving the production of electrical energy into the coal areas themselves and transporting the current instead of the coal to the centers of consumption. The steam power plant of Tomcha must be named here in first place: it is based on the coal of Lake Gusinoye and was built a few years ago in the vicinity of the railroad line from Ulan-Ude to Naushki. It has the task of supplying electricity to the wolfram mines, and it is assumed than an overland line leads into the regions of the upper Dzhida. The coal deposits of Kholbon also have an older power station (around 10,000 kilowatts), which also supplies both the city of Nerchinsk (over 25 kilometers away) and the gold works of Darasun (60 kilometers away) and of Baley (50 kilometers away). Power stations have also been erected in the coal deposits of Bukachacha (around 9,000 kilowatts) and of Kharamangutsk (around 3,000 kilowatts); these power stations, however, only serve the mining installations on the spot. All the larger cities and also the more important localities on the railroad line have their own heat power stations; coal must be hauled to these stations over a more or less long distance. For Ulan-Ude and Chita, which have the largest installations, there is the peculiar picture, arising out of the historical development, that both cities have several power stations where the capacity of the plant-owned power stations, which were built later, exceeds that of the older power stations which supply the cities' needs. In Ulan-Ude, for example, the power station of the locomotive factory (27,000 kilowatts) exceeds the city power station by several fold in

377 indicated power. Chita has five power stations with a total capacity of around 50,000 kilowatts; these power stations are driven by coal from Chernovskoye. Only the railroad repair shop has built its power station in the coal district itself. Petrovsk-Zabaykal'skiy has its own power stations. While all the above-mentioned power stations use coal as their heating material, the plants lying at a distance /174/ from the railroad line, such as, for example, the non-ferrous metal combinat, employ mixed firing, using peat and wood of local origin. The use of water power has in general still not gotten beyond the stage of research and planning. In 1948 the first water power station was erected on the Kyngorsk waterfall, but this power station is only of a limited size and is destined to supply agriculture only. There are reports from various regions of the erection of this type of small power station of the framework of sovkhoz and kolkhoz.

In the Amur area we find approximately the same picture. All the larger localities have their own power stations. Energy networks do not exist, and accordingly the individual central power stations, apart from Raychikhinsk, have to be supplied with energy materials from outside. Since the coal deposits here are smaller in number and are much farther from one another, the supplying of the stations is more difficult than in Transbaykal. Accordingly, the power stations employing mixed firing constitute the great majority. Here in the Amur country such plants also exist in the localities along the railroad line. In addition to coal, wood and--the farther one goes to the east--oil also are used. Some localities such as, for example, Birobidzhan, even have electrical works which are based only on oil. In general, however, coal predominates, with the greater part of the Amur area dependent on the import of brown coal from Raychikhinsk. In terms of transportation, the localities north of the arc of the Amur are most unfavorably situated, for the next coal area which comes into question as a source of supply, lies more than 700 kilometers away. It is therefore understandable that mining of a new coal field has begun at Magdagacha, which is more favorably located in terms of transportation. The power stations of Svobodnyy (around 5,000 kilowatts) and of Kuybyshevka (3,000 kilowatts) employ mixed firing, while that of Blagoveshchensk (25,000 kilowatts) uses coal. The coal area of Raychikhinsk supplies itself with energy as well as the industrial localities of Zavitaya and Bureya, which are not insignificant, although these two lie only about 40 kilometers from the coal center. Khabarovsk has five power stations, of which the largest, with its more than 10,000 kilowatts of installed power, serves to supply the city. The others are

installations owned by plants (each station has a capacity of approxi- 377
mately 4,000 kilowatts). An extension of the power installations gives the prospect of raising the total capacity of Khabarovsk to 50,000 kilowatts. The most important power station in the Amur area (45,000 kilowatts) is in Komsomol'sk. Another power station is under construction there. Nikolayevsk on the Amur also has a very important power station which supplies the industrial installations in the environs, too. The use of the water energy so abundant in the Amur area is still in the beginning stages. A larger water-power station is supposed to have been built between Khabarovsk and Komsomol'sk in the years after 1947; this station was to serve as supplement for these two cities. However, nothing is known of the station's location or /175/ output. Water power is used more extensively in the building of small, country power stations within the framework of kolkhoz and sovkhoz or groups of these. In 1950, for example, a larger power station was built to supply four kolkhoz. While in 1950 the state of electrification in the Amur area was still designated as insufficient, it appears that since then special efforts have devoted to this task. In 1952 ten of the thirty kolkhoz in the lower Amur area already had their own power stations, while power stations were under construction in the remaining twenty. Similar success stories come also from the rest of the Amur region. The strength of these agricultural power stations is mostly very slight and, as a general average for the Soviet Union, lies between 26.0 kilowatts and 55.6 kilowatts. The fishing kolkhoz also have their own small power stations. Thus six additional power stations were built on the coast of the Sea of Okhotsk in 1949, three were built in 1950, and four in 1951.

Petropavlovsk, the capital of Kamchatka, has a power station (12,000 kilowatts), which uses coal and oil. As in the other areas, electrification of agriculture here too is done by small power station. In 1952 the supply of current to ten kolkhoz was assured by newly constructed installations.

A large heat power station is available on the spot to supply the harbor and the industry of Magadan, and an additional power station in Seymchan supplies the gold mining district on the upper Kolyma.

The southern part of the Maritime Krai around Vladivostok is the furthest advanced in its electrification by reason of the coal districts lying close to one another. Accordingly even the railroad lines are electrified. The most important power station (50,000 kilowatts) lies in the brown coal region of Artem in the vicinity of the Ugol'naya

377 station and, in addition to supplying the railroad, it also supplies additional power to Vladivostok. Vladivostok itself has two power stations (12,000 and 13,000 kilowatts). In addition the dockyard has its own installation (around 6,000 kilowatts). The coal district of Suchan is equipped with a power station of its own (6,000 kilowatts), which also supplies current to the surrounding industries. While all the above-mentioned plants rest on coal firing, the claim that the power stations in Voroshilov (two with 6,000 and 5,000 kilowatts) and in Spassk (9,000 kilowatts) employ oil firing appears somewhat unexpected. All the larger localities along the Ussuri Railroad, which contain wood industries predominantly, have their own power installations with mixed firing; for this, next to coal, wood scraps are used primarily. Agricultural power stations are also numerous in the Maritime Krai. By 1950 there were already more than 100, although the supply of current for the countryside was designated as insufficient.

The following have power stations on the coast of the Sea of Japan: the harbor of Tetyukhe (around 3,000 kilowatts) and Ol'ga Bay (6,000 kilowatts). /176/ Sovyetskaya Gavan' has received a new important installation (25,000 kilowatts) to supply the wood and shipbuilding industries there.

On Sakhalin Island there is a power station in the oil region of Okha (24,000 kilowatts) and a coal power station in Aleksandrovsk (approximately 10,000 kilowatts). In the part of the island which formerly was Japanese almost all the coal mining districts have their own central power stations, which, however, have only a small capacity which is used for local needs.

If one surveys the state of development in the supplying of energy in the whole Far Eastern region, one is struck generally by the spotty distribution of power plants of all sizes. They were erected everywhere where energy was needed, with the question of transporting the energy material mostly playing only a subordinate role. As a result of this selection of locations there is a heavy burden on the means of transportation, which have to provide for bringing in the materials. The great step to converting energy minerals, especially coal, into electrical energy at the spot where the mineral is deposited and then transporting the electricity itself has still not been made. To be sure, a restraining factor toward taking this step is the great distances, but these distances in individual cases are not so significant that they could not be overcome by a power network. Also striking is the slight use that has been made of water power in large installations, although the

Soviet Union can rely on rich experience in the execution of projects of this type. Sufficient preparations in this direction have been made, as is summarized in the Atlas of Sources of Energy in the USSR, and from these preparations it can be seen what significant sources of energy, precisely in water power, still lie unused. The potential energy of water power in the Buryat-Mongol ASSR is estimated to be 7 million kilowatts. Chita Oblast is considered to be less favorable. The other Far Eastern regions are all the more richly equipped: their energy is reckoned to be 31 million kilowatts.

The Processing Industry

Some of the various branches of the processing industry have already been mentioned in the discussion of the raw material concerned. This applies especially to the wood and fish industries, which far exceed all other industrial branches, both in the number of plants and in the number of employees in these plants. From the extraordinary wealth of fish and wood it follows that the Far Eastern regions can not only supply themselves with these products but also that with their surplus they can contribute significantly in increasing measure to the supplying of the other parts of the Soviet Union. Wood, wood products, fish, and fish goods, therefore, form also the principal freighted goods which are sent out of the Far Eastern regions. World War II has had an extraordinary influence /177/ on the development of the other branches of industry. Various plants which had been moved to the Far East remained there after the end of the war; other plants were newly created or switched to another type of production in order to replace the loss in production in the areas affected by the war or also to ensure their own needs. Thus the supply situation today is generally more favorable than before World War II, and after this war it has been further improved by the erection of new installations.

In the selection of the location of the industrial plants the same principle apparently appears again and again. This principle is to so distribute these plants regionally in the vast area of the Far Eastern regions so that long transportation hauls are avoided as much as possible. The goal of this planning is to so equip the various areas with industrial plants so that each region can supply its own principal needs. The best example of this is the city of Magadan, from which the mining districts on the upper Kolyma are supplied and whose harbor is free of ice for scarcely six months. Besides repair installations for ocean-going ships

361 563 lie at a distance from the Amur are as good as uninhabited and in many cases are also unknown. Besides the Goldi and Gilyak, who, being fishing peoples, live in fixed dwellings primarily on the Amur and its tributaries, there are reindeer-breeding Samaghir who traverse the region of the Gorin, and the Negidal of the Amgun region, who are smaller in number. The Olcha are diffused on the right side of [135] the Amur. Findings of gold, which have been made on almost all the left tributaries of the lower course of the Amur, have given some spurs to settlement in very recent times. The rivers on which gold has been found are the Limuri, Pilda, Bichi, and it has also been found in Orel Lake as well as on the lower course of the Amgun.

361 The most important localities on the lower course of the Amur are Komsomol'sk and Nikolayevsk. Komsomol'sk lies alone in a vast, unoccupied region of the left bank of the Amur. The city arose only after 1926 from the small fishing village of Perskoye; it was the creation of the Communist youth (Komsomol), from which it has received its name. By 1939 it already numbered 70,000 inhabitants, [161] and today its population is estimated to be more than 150,000. The [376] city has a large river harbor with an important shipyard in which sea- [327] going ships are also built. The largest undertaking is the steel and rolling mill, "Amur Steel," which is supposed to have been expanded to an annual capacity of 500,000 tons of crude iron through the con- [382] struction of three blast furnaces. The already existing oil refinery has been enlarged by the addition of a cracking installation. A second [377] heat power plant is under construction, and a large water power plant was completed some time ago to supply the city with electricity. In addition, the city houses around twenty additional industrial undertakings and promises to become the economic center of the entire 361 area around the lower Amur. Already several years ago the city was 496 connected with the Amur Railroad west of Khabarovsk by a railroad line, which begins in Volochayevka. In order to counteract the difficulties of building a railroad in the damp Amur plain, the railroad was laid on the western edge of the plain and also goes around Lake Bolon' in the west. With this course, new dry areas were opened up to agriculture, and at the same time the rich supplies of wood in the forests /259/ have been brought closer to exploitation. Of greatest significance, however, is the fact that Komsomol'sk is the end of the BAM. By using this railroad the vast areas of the northern Amur country have in Komsomol'sk their nearest exit to the sea. However, the natural unfavorability of the mouth of the Amur has led to a